

CLAIMS

What is claimed is:

5 1. A method of removing at least a portion of water from moist, solid adipic acid that is obtained from solid-liquid separation of an adipic acid solution, the moist, solid adipic acid comprising adipic acid and water to produce a hot, dry adipic acid, said method comprising:

10 contacting the moist, solid adipic acid with a gas that does not react with adipic acid or water, in a succession of stages beginning with a first stage and terminating with a final stage, in which the moist, solid adipic acid is dried in the first stage by contacting the moist, solid adipic acid with the gas at a temperature in the range of 70 to 110 degrees C to produce a partially-dried solid adipic acid, and, in at least one stage after the first stage, contacting the partially-dried solid 15 adipic acid with the gas at a temperature in the range of 100 to 150 degrees C, the temperature in the first stage being lower than the temperature of any of said stages subsequent to said first stage.

20 2. The method of claim 1 further comprising cooling the hot, dry adipic acid contacting it with a gas that does not react with adipic acid or water, at a temperature in the range of 5 to 50 degrees C.

25 3. The method of claim 1 wherein the gas is selected independently for each of the stages from the group consisting of air, nitrogen, superheated steam and mixtures of at least two of the foregoing gases.

30 4. The method of claim 1 wherein heat is supplied through a heat exchange surface in one or more stages.

5. The method of claim 1 wherein the partially-dried solid adipic acid after contains less than 3 wt% water.

6. The method of claim 1 wherein the partially-dried solid adipic acid after contains less than 1 wt% water.

7. The method of claim 2 wherein the cooling gas is air or nitrogen.